Parcel B, D-1 and G Site Closure

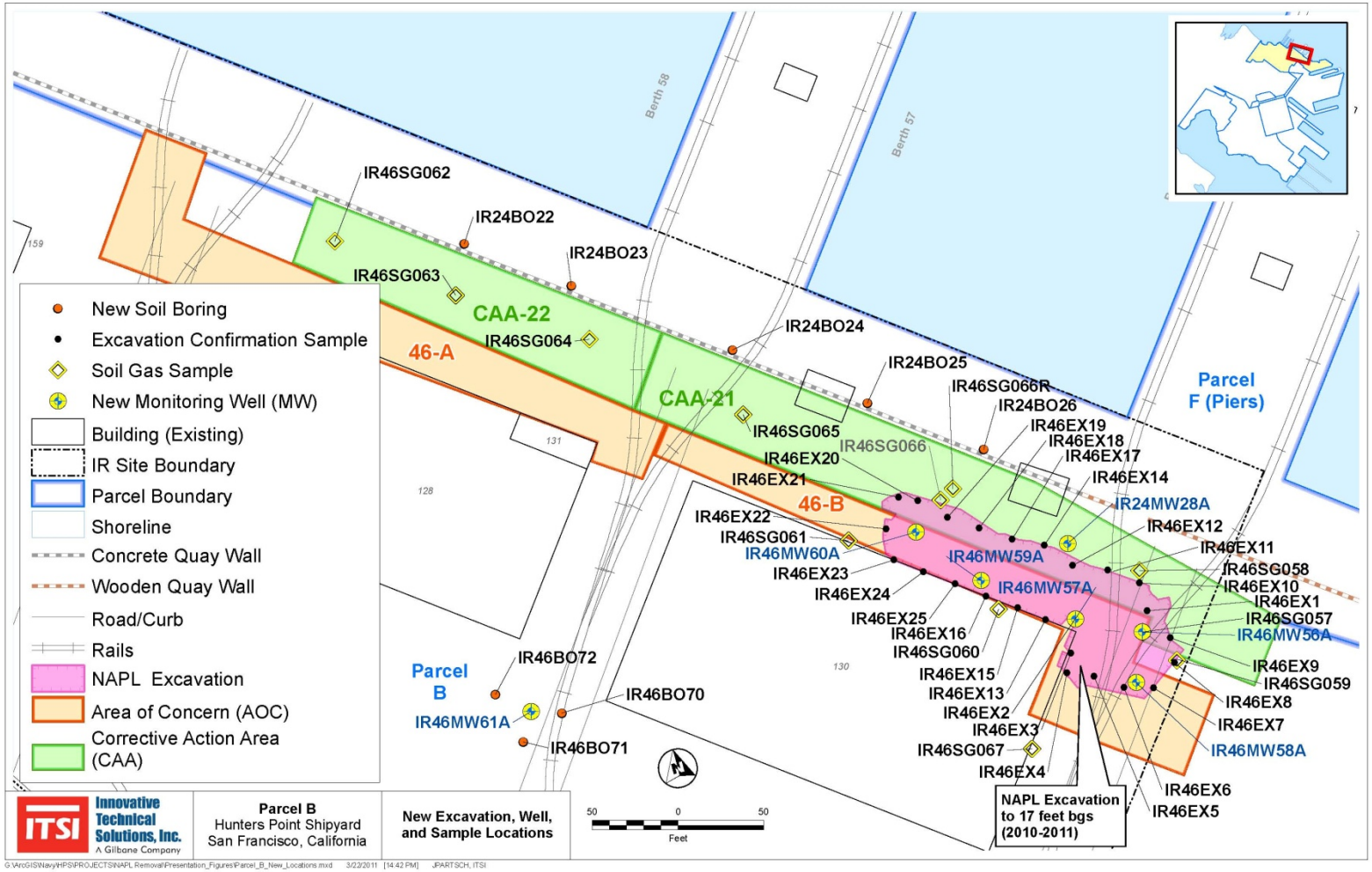
Construction Summary of Removal Action:
NAPL Excavation at Well IR46MW49A in Parcel B
&
Additional Work Completed October 2010 through February 2011:
Deep Soil Borings in Parcel B (CAA-21 Area)
Soil Borings/Grab GW Samples in Parcels B, D-1, & G
Tank Removal at Bldg. 113A in Parcel B

Base Closure Team Meeting
Hunters Point Shipyard
March 24, 2011

Timeline of Prior Events

- Between 1993 and 2007 numerous investigations and remediation efforts were completed at and in the vicinity of sites CAA-21, CAA-22, AOC 46-A, and 46-B to characterize and mitigate petroleum contamination.
- During these efforts, the entire area of CAA-21 and -22 was excavated to a depth of 10 ft. bgs.
- Historically, NAPL was not present at this site but source criterion exceedances (> 20 mg/l TTPH in GW) had been detected in a few historical samples in the area between IR46MW05A & IR46MW07A. The area was excavated as part of a remedial action during the mid-1990s.
- Some soil samples in CAA-21 collected at 10 feet and greater had TPH concentrations > 3,500 mg/kg source criterion.
- CAP recommended monitoring existing wells in the vicinity for four quarters.
- NAPL (diesel) was discovered in well IR46MW49A on April 29, 2010 during the 2Q-2010 base-wide groundwater monitoring event.
- Field logs indicated that 6-inches of NAPL was measured at depths of 9.5 feet bgs and had a 'light tan color ..with a definite petroleum odor'.

Site Location Map CAA-21 Showing Limits of Excavation at Building 130 in Parcel B



Completed Activities for IR46MW49A Excavation and Parcel B Investigation

- Vacuumed out visible product from open excavation and removed contaminated soil in the vicinity of IR46MW49A and Building 130.
- Disposed of approximately 200,000 gallons of groundwater to an offsite recycling facility.
- Approximately 3,000 cy of soil was excavated and staged in a designated stockpile.
- Conducted confirmation sampling of the excavation sidewall soils.
- Backfilled excavation and conducted site restoration.
- Installed Guard well IR24MW28A, 3 replacement wells, and 2 new wells within the extended excavation footprint.
- Installed one new well at IPO IR46B015, per WB request.
- Completed well development activities on the new wells.
- Conducted groundwater monitoring for 12 Parcel B wells (2/23-24/11).
- Conducted forensics for IR46MW49A product (HC fingerprinting C3-C44 by GC/FID), data indicates carbon range C11-C23 characteristic of degraded diesel or #2 fuel oil. Report indicates a release of more than 10 years ago.
- Geophysical Survey Completed – (Magnetics and EM).

Other Completed Tasks: NAPL Site (IR46MW49A) and Parcels B, D-1, and G

Other Completed Tasks

•Installed 12 Soil Vapor probes and successfully collected soil vapor samples.

•Collected Isolated Petroleum Occurrences (IPO) Soil and Grab Groundwater Samples from 17 Soil Borings in Parcels B and G, w/ additional soil and groundwater sampling in Parcel B, at IR46B015 per WB request.

•Installed a Guard Well, 3 replacement wells and 2 new wells in the excavation area.

•Developed new wells and sampled 12 area wells for 1Q2011.

AOC-70A

• Collected confirmation groundwater samples from 4 wells in the area of AOC-70A.

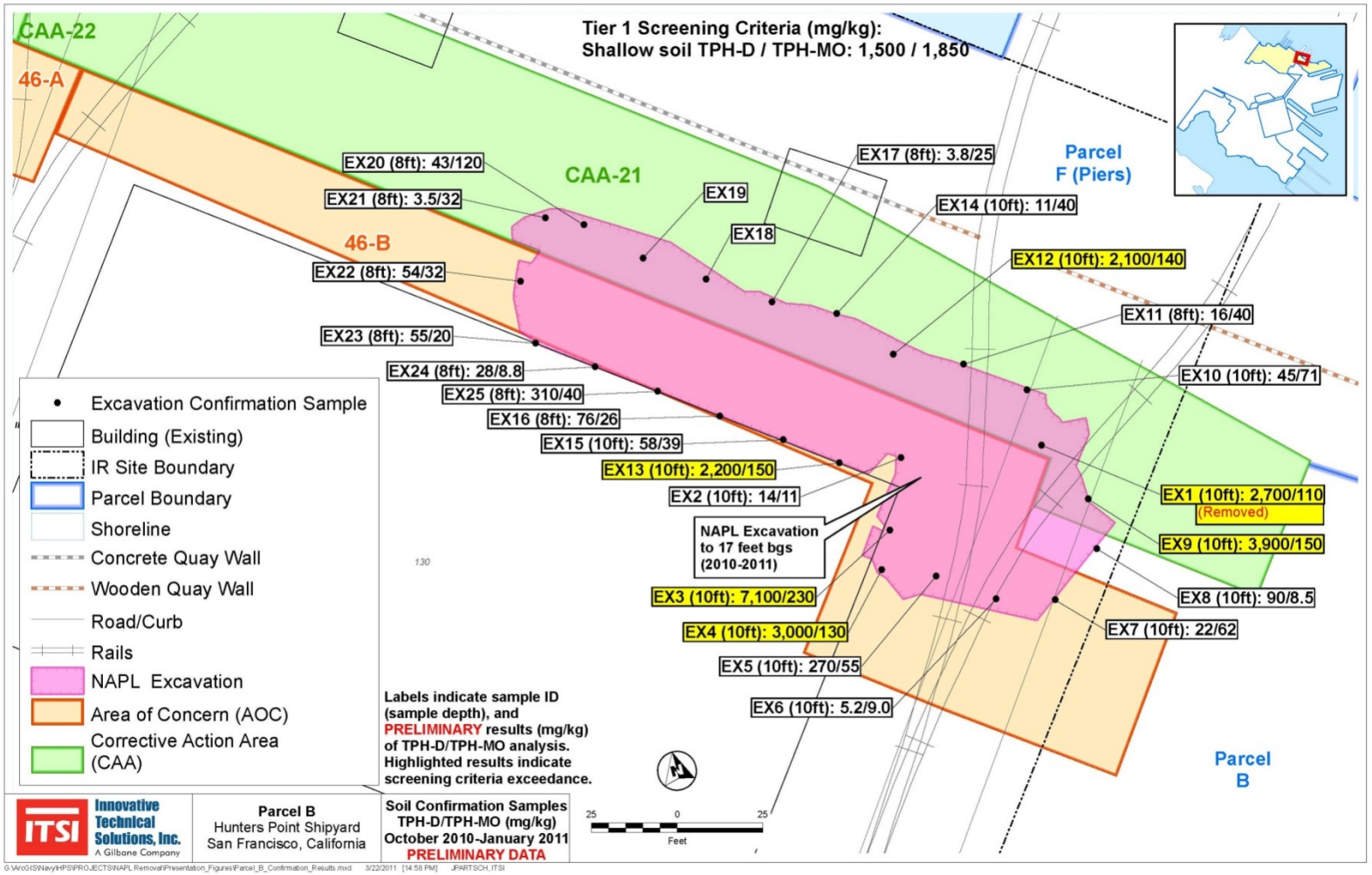
Deep Soil Borings

- Performed geophysical and structural evaluation of pier deck.
- Advanced 5 of 6 deep borings outside of Quay Wall with collected soil samples at 15, 20, and 25 feet bgs in each boring. IR24B027 is on unstable ground and was not advanced.

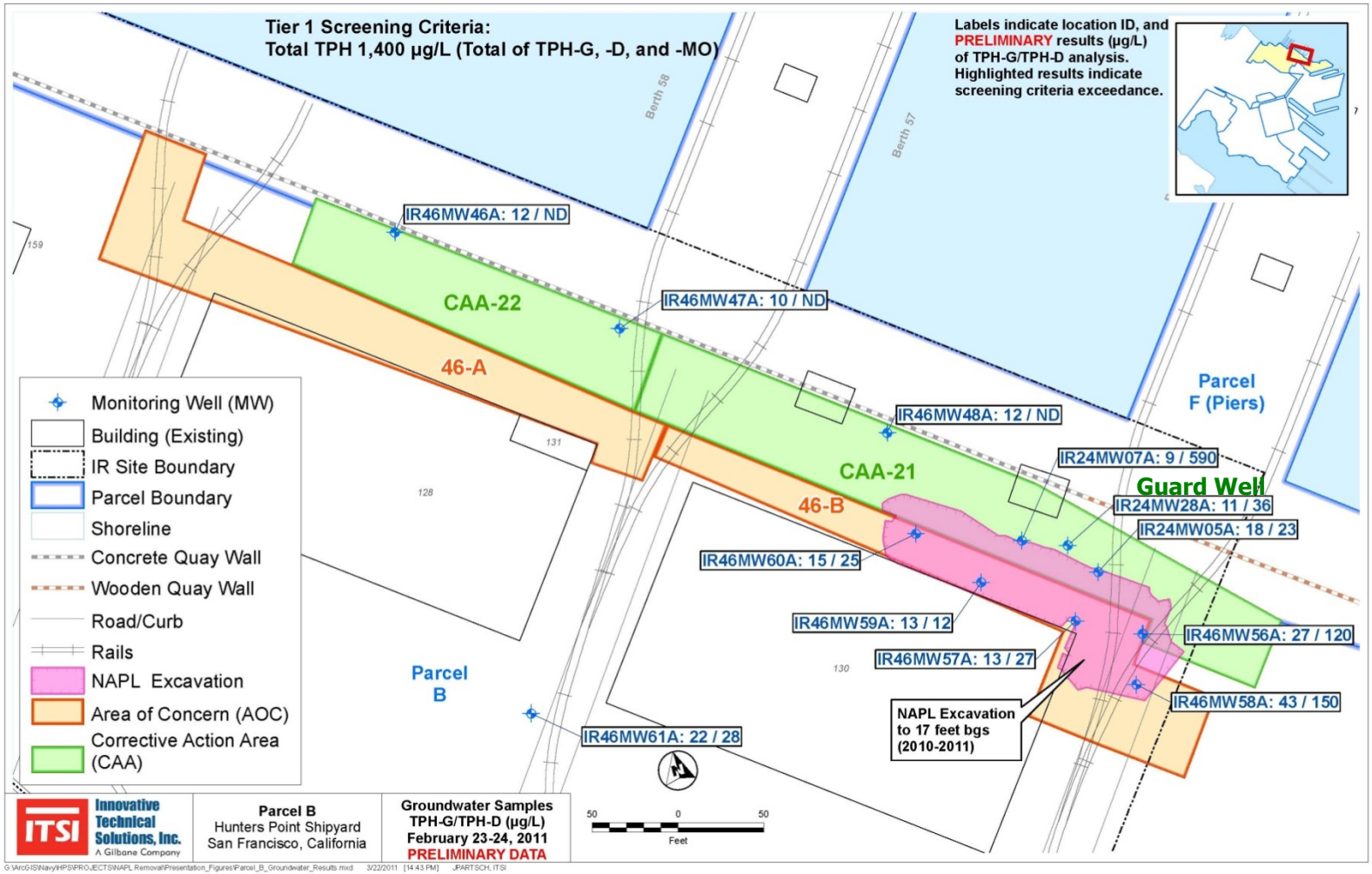
Tank at Bldg. 113A

- Removed UST at B113A in February 2011 with confirmation soil sampling.
- Properly disposed of UST, and UST contents.

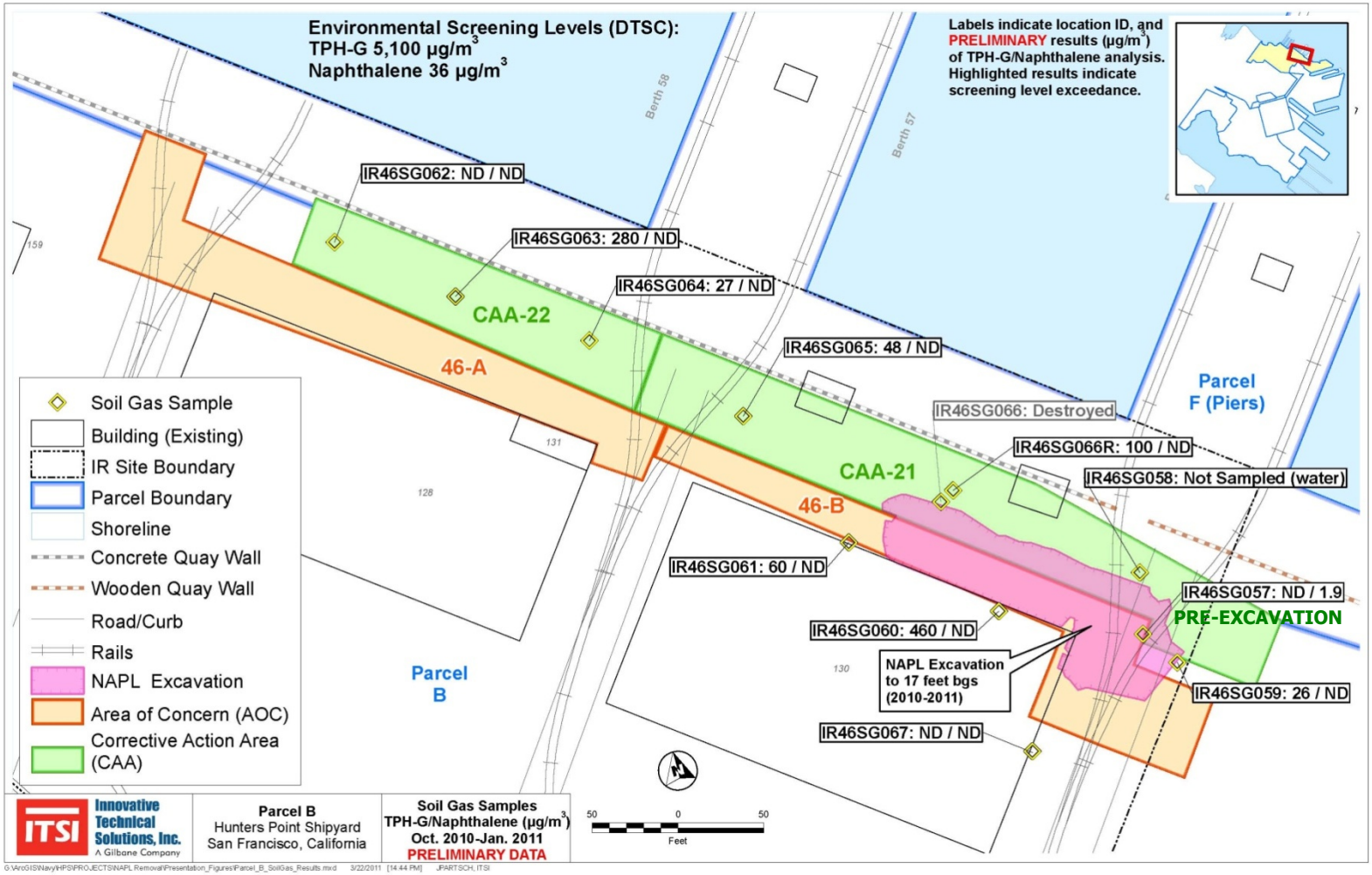
Excavation Soil Confirmation Samples: TPHd / TPHmo



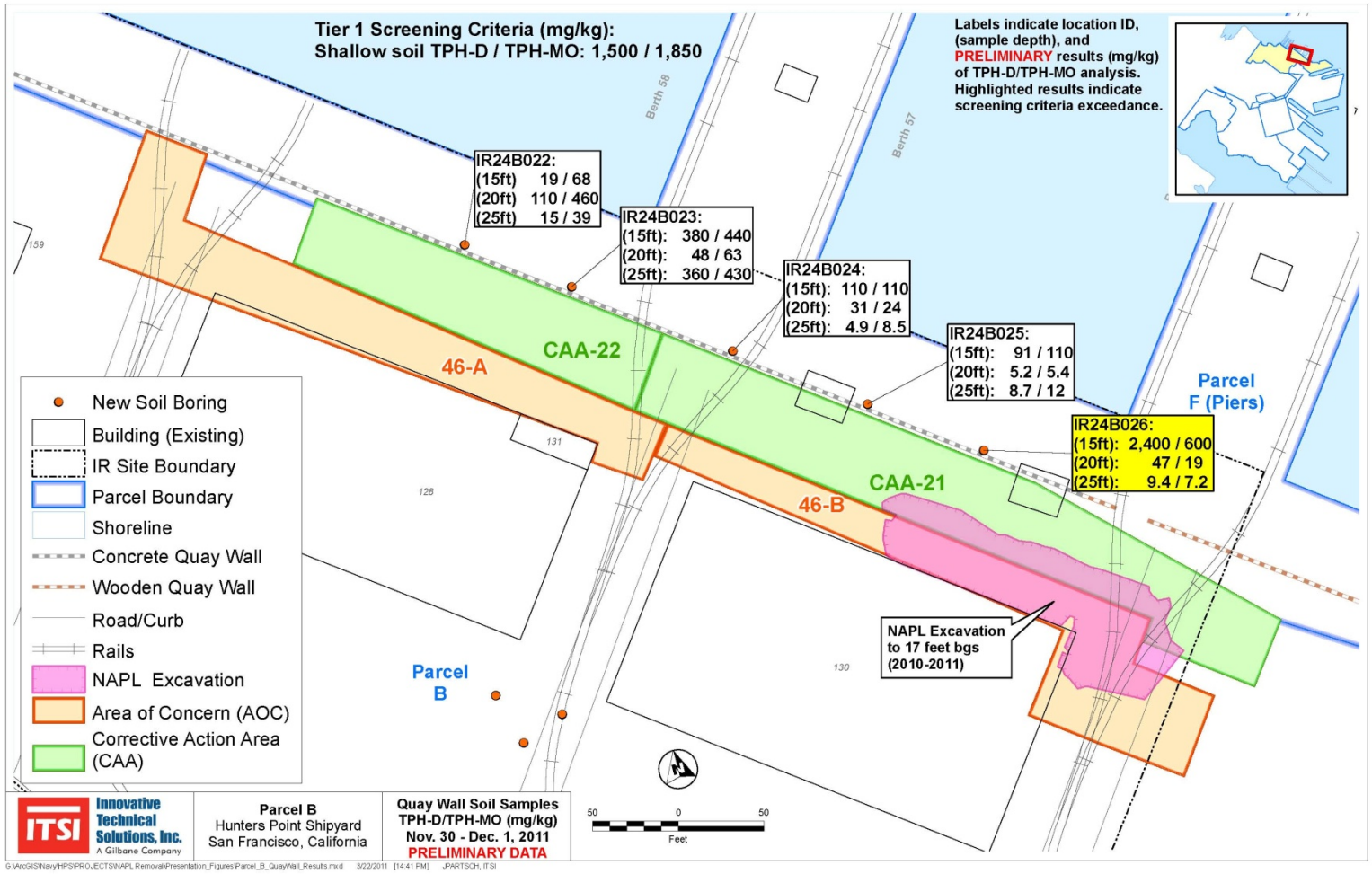
Groundwater Analytical Results
Post Excavation CAA-21 Area- TPHg/TPHd



TPHg / Naphthalene in Soil Gas
Post Excavation CAA-21 Area



Deep Soil Quay Wall Soil Boring Results

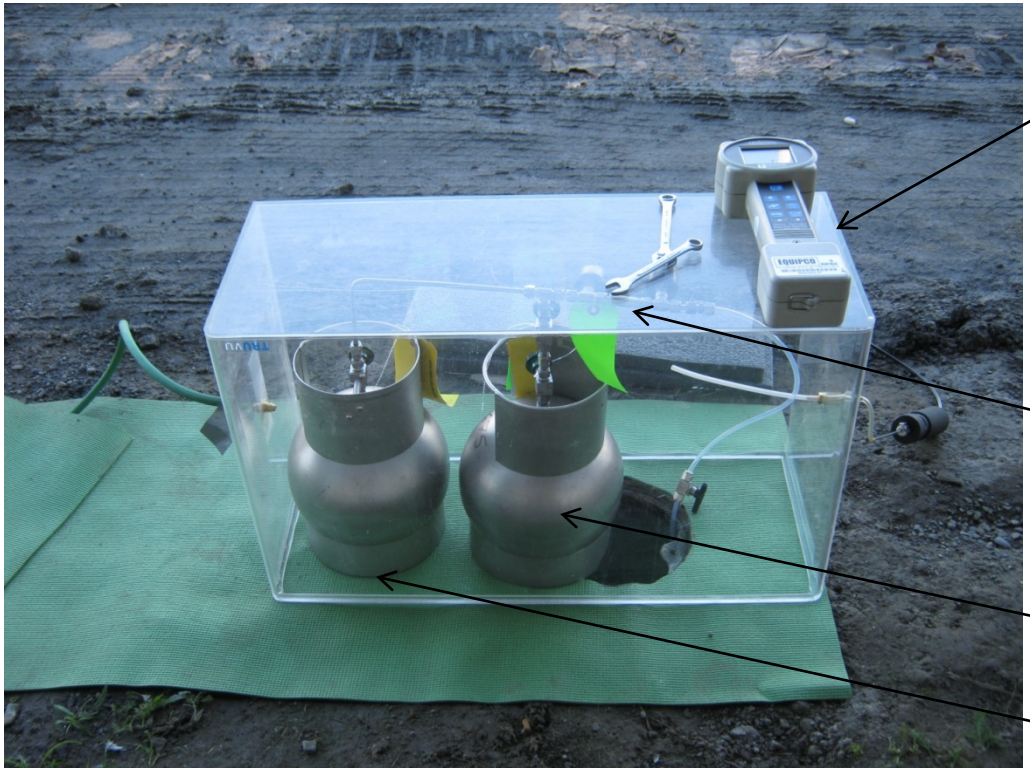


NAPL Removal Excavation: View towards Northeast

Concrete Utilidor Demolition and Excavation Backfill

Completed Excavation with rebuilt drainage swale, view towards West

Confirmation Soil Gas Sampling at IR46SG061 with Summa© canister sample-train and leak detection shroud



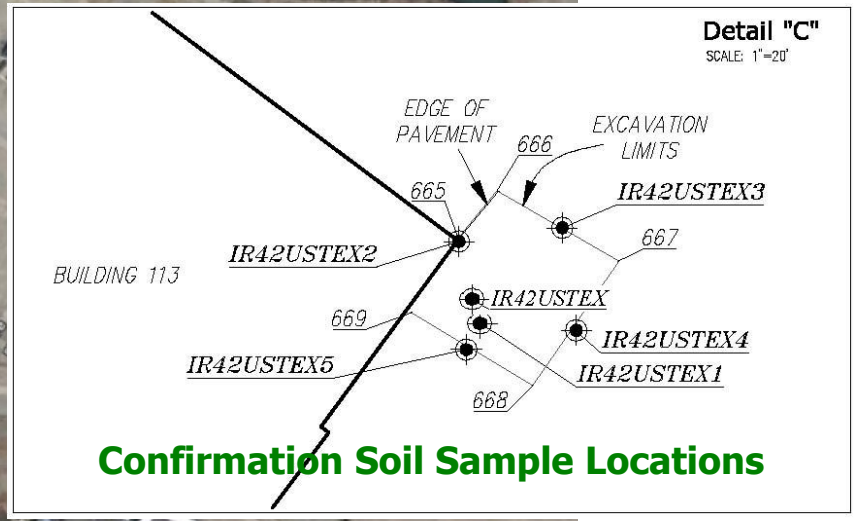
Helium meter

Vacuum gauges and flow regulator (sample-train manifold)

Purge canister

Sample canister

Bldg. 113A UST Removal at Parcel B



Confirmation Soil Sample Locations

Bldg. 113A UST Removal at Parcel B

Building 113A UST Contents

Analysis:	Screening Level Groundwater (RG/ESL/Tier 1) ug/L	UST Contents ug/L	RLs ug/L
TPHg	-/210/1,400(total TPH)	10000 Y	2,500
TPHd	-/210/1,400(total TPH)	18000 Y	500
TPHmo	-/210/1,400(total TPH)	1600 J	3,000
Detected VOCs (>RLs)			
Toluene	-/130/5,000	11	5
Ethylbenzene	-/43/86	14	5
Total xylenes	-/100/91,700	430	10
Isopropylbenzene	None	59	25
Propylbenzene	None	81	25
1,3,5 Trimethylbenzene	19/-/-	530	25
1,2,4 Trimethylbenzene	25/-/-	1,400	25
sec-Butylbenzene	None	120	25
para-Isopropyl Toluene	None	190	25
n-Butylbenzene	None	260	25
Detected PAHs (>RLs)			
Naphthalene	3.6/24/470	37	4.7
1-Methylnaphthalene	-/-/26,000(total 1- & 2-)	23	4.7
2-Methylnaphthalene	'07/2.1/26,000(total 1- & 2-	45	4.7
PCBs	N/A (not detected)	ND	0.5/1.0

Analysis:	Screening Level Groundwater (RG/ESL/Tier 1) ug/L	UST Contents ug/L	RLs ug/L
Detected Metals (>RLs)			
Antimony	-/30/-	6,300	1,000
Arsenic	27.34/36/-	N/A	N/A
Barium	-/1,000/-	ND	500
Berylium	-/0.53/-	ND	200
Cadmium	-/0.25/-	ND	500
Chromium (total)	-/180/-	670,000	500
Cobalt	-/3.0/-	220 J	500
Copper	-/3.1/-	ND	500
Lead	-/2.5/-	ND	500
Mercury	0.68/0.025/-	ND	0.2
Molybdenum	-/240/-	160J	500
Nickel	-/8.2/-	ND	500
Selenium	-/5.0/-	ND	1,000
Thallium	-/4.0/-	ND	1,000
Vanadium	-/19/-	100 J	500
Zinc	-/81/-	ND	2,000

Building 113A UST Groundwater Screening Level Exceedances

Analysis:	Screening Level Groundwater (RG/ESL/Tier 1) ug/L	IR42USTEX Pit GW ug/L	RLs ug/L
TPHd	-/210/1,400(total TPH)	**320 Y**	50
TPHmo	-/210/1,400(total TPH)	**330**	300
Detected VOCs (>RLs)			
sec-Butylbenzene	None	**0.6**	0.5
Detected PAHs (>RLs)			
Chrysene	6.4/0.35/60	**0.6**	0.1
Benzo (g,h,i) perylene	-/0.1/60	**0.2**	0.1
Detected Metals (>RLs)			
Copper	-/3.1/-	**9.7**	5
Mercury	0.68/0.025/-	**0.11 J**	0.2
Nickel	-/8.2/-	**17**	5
Zinc	-/81/-	**99**	20

270	Results Exceed Residential Use RGs, ESLs or Tier 1 Screening Criteria
28	Detection with no ESLs listed, and not listed in Parcel B ROD

J= Estimated value

Y = Exhibits chromatographic pattern which does not resemble standard

Building 113A UST Soil Screening Level Exceedances

Analysis:	Screening Level Soil (RG/ESL/Tier 1) (mg/kg)	IR42USTEX1 UST Pit Soil mg/kg Bottom Sample	IR42USTEX3 UST Pit Soil mg/kg North Sidewall	IR42USTEX4 UST Pit Soil mg/kg East Sidewall	IR42USTEX5 UST Pit Soil mg/kg South Sidewall	IR42USTEX2 UST Pit Soil mg/kg West Sidewall
TPHg	-/100/315	0.016 J	0.023 J	0.020 J	**370 Y**	0.030 J
Detected VOCs (>RLs)						
Isopropylbenzene	None	ND	ND	ND	**0.028**	ND
Tert-Butylbenzene	None	ND	ND	ND	**0.014**	
sec-Butylbenzene	None	ND	ND	ND	**1.90**	ND
Detected Metals (>RLs)						
Arsenic	11.1/0.39/-	**1.2**	**2.0**	**5.5**	**7.4**	ND
Cadmium	3.5/1.7/-	**5.1**	ND	ND	ND	ND
Chromium (total)	-/-/-	10	**410**	**280**	**490**	**670**
Cobalt	-/40/-	0.99	**57**	31	**76**	**59**
Nickel	-/150/-	9.5	**1,300**	**480**	**1,300**	**1,700**
Vanadium	117/16/-	2.9	**39**	**74**	**68**	**42**
Zinc	373/600/-	**4,100**	44	60	49	42

270 Results Exceed Residential Use RGs, ESLs or Tier 1 Screening Criteria

28 Detection with no ESLs listed, and not listed in Parcel B ROD

J= Estimated value

Y = Exhibits chromatographic pattern which does not resemble standard

Building 113A UST Summary

- UST was observed to be intact.
- UST did not appear to have leaked.
- UST was observed to be full.
- Contents of tank indicated elevated Antimony (Sb) and Chromium (Cr) concentrations; mostly a mixture of fuel hydrocarbons and solvents.
- Soil and groundwater detections from confirmation samples did not correspond to contents of UST; e.g. high concentrations of Sb and Cr that were found in UST contents were not found at elevated concentrations in soil or groundwater.

Active and Ongoing Tasks

Active & Ongoing Tasks

- Construction Summary Reporting on the Parcel B NAPL excavation is in Progress.
- A place holder is included in the B SCR to cover 3 additional quarters of groundwater monitoring for the CAA-21 Combined Site area (all data will be included in an appendix) and submitted to WB for site closure.
- Soil Investigation Derived Waste T&D in progress under separate contract.
- All work continues to be safely conducted under ITSI Health and Safety Program.
- Action Memorandum for Building 113A UST removal and letter report, Internal draft to be prepared and submitted to the Navy by April 29, 2011. Final Report will be due to regulators by July 1, 2011.